

**Amendments to the Drawings:**

The attached replacement drawing sheet makes changes to Figs. 1 and 2 and replaces the original sheet with Figs. 1 and 2.

Attachment: Replacement Sheet

**REMARKS**

Claims 1-7 are pending in this application. By this Amendment, claims 1-7 are amended. Support for the amendments can be found, for example, on page 3, lines 28-31, page 4, lines 6-10, 20-22 and 27-29, page 5, lines 5-7, page 6, lines 17, 18 and 32-34, and page 7, lines 1 and 2 of the current specification. No new matter is added.

**I. Objections**

The Office Action objects to the drawings because in Figs. 1 and 2 it is difficult to discern to what layers the reference numbers refer to and because Fig. 1 does not include a reference to 4a. Amended Figs. 1 and 2 address the issues referenced by the Examiner. Accordingly, reconsideration and withdrawal of the objection is respectfully requested.

**II. Rejections****A. Rejections Under 35 U.S.C. §112**

The Office Action rejects claims 2 and 5 under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Specifically, the Office Action asserts that claim 2 lacks antecedent basis for the feature "free-space-containing base layer", and that claim 5 contains a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation. By this Amendment, claims 2 and 5 are amended to address these issues. Specifically, claim 2 is amended to recite "the base layer comprises a free-space-containing layer" and claim 5 is amended to remove one range. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**B. Rejection Under 35 U.S.C. §103**

The Office Action rejects claims 1-7 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,409,645 to Paasonen et al. ("Paasonen") in view of U.S. Patent

No. 5,753,165 to Watanabe et al. ("Watanabe"). Applicant respectfully traverses the rejection.

The relevant portions of claim 1 recite, "a method for manufacturing a roll coating onto a roll frame, which coating comprises on the roll frame a base layer comprising at least one heat-setting or thermoplastic polymer material layer, and on the base layer a surface layer comprising at least one heat-setting or thermoplastic polymer material layer ... the material of the surface layer is selected in such a manner that its curing or processing temperature is lower than that of a topmost polymer material layer of the base layer." Claim 7 is directed to a roll, having similar limitations to claim 1. Paasonen and Watanabe, individually or in combination, fail to teach or suggest such a method or roll.

Paasonen merely discloses a method wherein the base layer is formed on the roll frame of a heat-setting or thermoplastic polymer material, and the surface layer is formed on the base layer of the heat-setting or thermoplastic polymer material. See Paasonen, col. 4, lines 40-42 and 58-59, and col. 6, lines 25-32. The base layer constitutes a layer of compressible material, and during the curing of the surface layer, the surface layer shrinks and contracts inwardly compressing the compressible material of the base layer and bringing it to its final form. Thus, the compressible material of the base layer absorbs stresses that would otherwise remain on the surface layer due to its shrinking. However, Paasonen does not teach or suggest that the surface layer is selected in such a manner that its curing or processing temperature is lower than that of the topmost polymer material layer of the base layer. The Office Action uses the teachings of Watanabe to address the discrepancies of Paasonen.

However, Watanabe merely discloses a process for producing hard rolls wherein a mold is placed around the roll core and resin is inserted in the space between the mold and the roll core. Heat is then applied outside of the mold while the inner roll core is cooled creating a resin intermediate body on the surface of the mold, a viscous liquid state on the surface of

the roll core, and a viscous liquid resin in between the viscous liquid state and the resin intermediate body. Subsequently, the outside of the mold is cooled and the core roll is heated causing the resin intermediate body to contract by thermal shrinkage expelling the viscous liquid resin and creating a resin body on the roll core. Therefore, Watanabe teaches that the temperature on the inner surface and the outer surface of the resin should be varied, but that the resin material is constant throughout. Watanabe does not teach or suggest that the material of the surface layer is selected in such a manner that its curing or processing temperature is lower than that of the topmost polymer material layer of the base layer.

Conversely, when the curing or processing temp of the surface layer is lower than the curing or processing temp of a topmost layer of the base layer, the volume of the base layer is reduced while the surface layer shrinks. This results in little or no residual stress in the surface layer. Neither Paasonen nor Watanabe, individually or in combination, teach or suggest reducing residual stresses in such a manner.

For at least the reasons stated above, claims 1 and 7 would not have been rendered obvious by Paasonen and Watanabe. Claims 2-6 depend from claim 1 and, thus, would not have been rendered obvious by Paasonen and Watanabe. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-7 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:NAB/hms

Attachment:  
Replacement Drawing Sheet

Date: June 18, 2008

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